AMENDMENTS TO THE CLAIMS

U.S. Patent Application No. 09/739,991

1. (Currently Amended) A ~~data structure for analyzing retail transactional data in a~~ computer-implemented data mining system, comprising:

a relational database managed by a relational database management system for storing retail transactional data;

~~wherein the data structure is~~ a data model that defines the manner in which said retail transactional data is stored and organized within said ~~data mining system~~ relational database, said data model comprising a basket database table that contains summary information about the retail transactional data, an item database table that contains information about individual items referenced in the retail transactional data, and a department database table that contains aggregate information about the retail transactional data, and the data model is mapped to aggregate the transactional data for cluster analysis of shopping behavior; and

~~wherein the data model is accessed from a relational database managed by a relational database management system~~

wherein the cluster analysis groups the retail transactional data into coherent groups according to perceived similarities in the retail transactional data and presents the results of said cluster analysis to a user.

2. (Cancelled)

3. (Cancelled)

4. (Cancelled)

5. (Cancelled)

6. (Currently Amended) The ~~data structure~~ computer-implemented data mining system of claim 1, wherein the data model is mapped into a single flat table format to produce a correct level of aggregation for statistical analysis.

7. (Currently Amended) The ~~data structure~~ computer-implemented data mining system of claim 1, wherein the data model is mapped into a database view to produce a correct level of aggregation for statistical analysis.

8. (Currently Amended) The ~~data structure~~ computer-implemented data mining system of claim 1, wherein the data model is comprised of one row per transaction in the retail transactional data.

9. (Currently Amended) A method for analyzing retail transactional data in a computer-implemented data mining system, comprising:

maintaining a relational database managed by a relational database management system for storing retail transactional data

generating a data structure in the computer-implemented data mining system, wherein the data structure is a data model that defines the manner in which said retail transactional data is stored and organized within said ~~data mining system~~ relational database, said data model comprising a basket database table that contains summary information about the retail transactional data, an item database table that contains information about individual items referenced in the retail transactional data, and a department database table that contains aggregate information about the retail transactional data; ~~and~~

mapping the data model to aggregate the transactional data for cluster analysis of shopping behavior; ~~and~~

~~wherein the data model is accessed from a relational database managed by a relational database management system~~.

performing cluster analysis to group said retail transactional data into coherent groups according to perceived similarities in the retail transactional data; and

presenting the results of said cluster analysis to a user.

10. (Cancelled)

11. (Cancelled)

12. (Cancelled)

13. (Cancelled)

14. (Original) The method of claim 9, wherein the mapping step comprises mapping the data model into a single flat table format to produce a correct level of aggregation for statistical analysis.

15. (Original) The method of claim 9, wherein the mapping step comprises mapping the data model into a database view to produce a correct level of aggregation for statistical analysis.

16. (Previously Presented) The method of claim 9, wherein the data model is comprised of one row per transaction in the retail transactional data.

17. (Currently Amended) An apparatus for analyzing retail transactional data in a computer-implemented data mining system, comprising:

a relational database managed by a relational database management system for storing retail transactional data

means for generating a data structure in the computer-implemented data mining system, wherein the data structure is a data model that defines the manner in which said retail transactional data is stored and organized within said ~~data mining system~~ relational database, said data model comprising a basket database table that contains summary information about the retail transactional data, an item database table that contains information about individual items referenced in the retail transactional data, and a department database table that contains aggregate information about the retail transactional data; and

means for mapping the data model to aggregate the transactional data for cluster analysis of shopping behavior; ~~and~~

~~wherein the data model is accessed from a relational database managed by a relational database management system~~

means for performing cluster analysis to group said retail transactional data into coherent groups according to perceived similarities in the retail transactional data; and

means for presenting the results of said cluster analysis to a user.

18. (Cancelled)

19. (Cancelled)

20. (Cancelled)

21. (Cancelled)

22. (Original) The apparatus of claim 17, wherein the means for mapping comprises means for mapping the data model into a single flat table format to produce a correct level of aggregation for statistical analysis.

23. (Original) The apparatus of claim 17, wherein the means for mapping comprises means for mapping the data model into a database view to produce a correct level of aggregation for statistical analysis.

24. (Previously Presented) The apparatus of claim 17, wherein the data model is comprised of one row per transaction in the retail transactional data.

25. (Currently Amended) The ~~data structure~~ computer-implemented data mining system of claim 1, wherein the cluster analysis utilizes a Gaussian Mixture Model.

26. (Previously Presented) The method of claim 9, wherein the cluster analysis utilizes a Gaussian Mixture Model.

27. (Previously Presented) The apparatus of claim 17, wherein the cluster analysis utilizes a Gaussian Mixture Model.